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PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL - 4 1925

REPORT FOR WEEK ENDING JULY 4, 1925.

JUDITH BASIN:

The week has been comparatively warm and precipitation has been received five days out of the seven. Small grains had commenced to show signs of suffering from the hot weather and lack of moisture despite a couple of showers during the forepart of the week, but were afforded definite relief by a heavy rain of .60 inch on June 30. All crops have made a rapid growth. Flax is in full bloom and all small grains on the rotations have headed out. Alfalfa has made a very good second growth, and it appears as if a fair second crop would be secured.

Field work has consisted of cultivating trees, potatoes, beans and corn, hoeing and mowing weeds, and trimming hog and cattle pasture blocks.
Maximum temperature 85, minimum 49; precipitation .90 inch.

HUNTLEY:

Hot weather with occasional showers has stimulated the growth of corn and sorghums to a noticeable degree during the past week. Small grains, on the other hand, look wilted and, in the case of oats and peas, the prospects for an average crop are not bright. Wheat and barley are fully headed but need rain before the grain will fill properly. Burning is more apparent in the stubbled and spring plowed plats than in the other methods of cultivation for small grains. Corn on spring listing is larger and of a healthier color than that which was surface planted. At this stage of growth the surface planted corn has usually been larger than the listed corn although the latter has equalled or excelled the former before the end of the season.

Field work has been confined to weed eradication, soil sampling and the completion of haying.

Station visitors during the week included Secretary Jardine, F. M. Russell, J. M. Stephens, George W. Morgan, of the Department of Agriculture, and President Atkinson, of the Montana State College.
Maximum temperature 97, minimum 50; precipitation .39 inch.

SHERIDAN:

The week has been quite generally warm, and with two light showers. Growth of all vegetation has been good, and moisture conditions still remain good. The surface, however, is quite dry. All grain crops are now about completely headed, except the later dates of seeding spring wheat. Winter wheat is beginning to turn. Peas were turned under for green manure during the week. The growth of peas was unusually heavy, and the ground turned up dry and lumpy.
Maximum temperature 95, minimum 55; precipitation .51 inch.

DICKINSON:

Crops have developed rapidly during the week of warm and dry weather. A good rain now would greatly benefit all crops.

Most of the grains are heading unevenly. Spring grains now indicate a yield 20-25 per cent below those of 1924, on average yields.

The first cutting of alfalfa varieties weighed on July 2 averaged a little less than a ton to the acre.

Field peas in the green manure rotations were plowed under July 3.

The precipitation for the six months January 1 to June 30 was .98 inch below the 33-year average for the station.
Maximum temperature 90, minimum 43; precipitation .25 inch.
Precipitation for the month of June was 4.31 inches.

MANDAN:

Agronomy

The past week has been favorable for all field work. All crops made rapid advancement during the week.

Haying has been in progress all week. Alfalfa varieties were cut for the Office of Forage Crop Investigations. Crested wheat grass, bromegrass, and slender wheat grass, were also cut. Alfalfa and bromegrass in the feed fields were cut and cocked.

Sweet clover in the rotations was turned under for green manure.

The total rainfall for June was 7.34 inches.
Maximum temperature 89, minimum 41; precipitation .02 inch.

Cooperative Grazing Experiment

Cattle made fair gains for the month of June. They are a little less than the average for June. The grass was short during the first part of the month. It was nearly the middle of the month before the grass started good growth.

All pastures carry ten head of 2-year old steers, except the rotation pasture, which is carrying sixteen head.

Mandan, continued:

The following are the gains per head for the month of June:

Pasture	Lbs. gain
100-acre	95.0
70-acre	65.5
50-acre	73.0
30-acre	55.5
Rotation (70-acre)	70.9
Brome (25-acre)	73.0

The steers in the 100-acre pasture showed a light gain during May, which accounts for their heavier gain in June.

Horticulture

The first strawberries were picked on July 1, but only light yields of poor quality fruit were obtained. Currants are ripening and will be picked next week.

All orchards have been cultivated and hoed for the second time this season.

Grapes were sprayed with nicotine and fish oil soap solutions to control leaf hoppers.

Thinning and hoeing have been in progress in the acre garden and sweet corn breeding plat.

General routine work on the grounds has included mowing the grass, hoeing groups and cleaning roads. Sorbaria sorbifolia is at its best at the present time. Philadelphus grandiflora is still making a good show, and there are a few scattered blossoms on rugosa hybrids.

Arboriculture

Mr. George and Mr. Gillett completed the inspection of the territory near Hebron, Dickinson, Killdeer, and Hazen, North Dakota. Mr. Wilson inspected plantings in Mercer, Oliver, Burleigh, and McLean counties, and Mr. Emerson reached Lemmon, South Dakota, on July 1. The condition of the crops was reported excellent in practically all areas visited.

The condition and stand is uniformly excellent in all 1925 plantings visited.

Mandan, continued:

There is some variation in the condition of 1921 plantings, due in most instances to the kind of care they have received. The same difference is to be noted in the 1916 plantings, with the additional fact that in all cases willow and Norway poplar are entirely gone or in very poor condition.

There is a noticeable amount of building of barns, sheds, and houses on many of the farms visited. Farmers are also busy "summer fallowing" after the common practice of plowing under a heavy crop of weeds, on fields that were not seeded this spring.

BELLE FOURCHE:

The past week was the warmest of the season but the humidity was so high that crops suffered far less than they would have under ordinary climatic conditions. There were three showers during the week but the total amount of rain was only .29 inch.

Nearly all plats have commenced to fire to some extent but only a few have been seriously damaged as yet. Plats on fallow are for the most part in very good condition. The oats that have commenced to fire are undergoing a forced ripening. The extent to which the different plats have turned color seems to depend entirely on the severity of the drought injury. There is no doubt that all oats will be light, regardless of how favorable conditions may be from now until harvest. The winter rye is nearly ripe. It looks as if the yield secured will be fair though the grain will be somewhat shriveled. Winter wheat appears to be filling well and some plats have commenced to turn color. Only a very small amount of leaf rust has appeared. Spring wheat on most plats has not been seriously damaged as yet but rain is essential to enable it to produce a fair crop. At least two-thirds of the leaves are dead, and most plats show blasted heads.

Corn, potatoes, and sorghum are in excellent condition and are growing rapidly. Most of the corn is from two feet to two and one-half feet tall. It is farther advanced than it has been at this time any year since the station was established.

Maximum temperature 96, minimum 55; precipitation .29 inch.
The total rainfall for June was 3.10 inches.

ARCHER:

The precipitation for April was 1.28, for May 1.21 and for June 1.08 inches. These amounts are considerably under the average and crops and pastures at the station are in a rather bad shape. Since July 1 there have been light showers of .07, .08 and .06 inch with high humidity and temperatures favorable for rust development. These showers have been the outer edges of local thunder storms which have been of great benefit to the surrounding country where the grass and crops are looking well.

Archer, continued:

The work at the station has consisted of weeding and putting up hay secured by the cutting of 17 acres of winter wheat. The hay yield will be about 2700 pounds per acre.

County Agent Simpson, of Weld County, Colorado, was a station visitor June 29 and made arrangements for an inspection tour of the station July 9 by the farmers of Northern Colorado.

Maximum temperature 90, minimum 52; precipitation .25 inch.

AKRON:

The week has passed with several threatening rains but a bare trace received. Crops are making excellent progress and corn now stands about knee high. Millet promises to make decidedly better than average yield. Winter wheat is ripening in the fields where the heading was uniform and harvest over this region will become general this coming week. The fallow plats on the station will be cut early in the week. On other plats and on the sheep rotation fields, the wheat is tall and ripe around the edges, while in the center the wheat is just in the bloom stage or a little past. This is the portion of the fields or plats where it was thought the wheat was beyond recovery, but the plants have headed since the rains of June and though short may make a fair yield. Much of the winter wheat here on the station will have to be harvested with the mower and buncher attachment.

The G. M. Rye and the fallow plats were cultivated during the week. The G. M. Pea plats were plowed under July 1. On rotations 30 and 91 the peas were completely burned up except around the edges of the plat. The other four rotations containing peas had a fair stand uniformly 14 inches high. The rotation and variety small grain plats were rogued. The variety corn was cultivated as well as the Rate and Spacing corn. The forestry was completely gone over with cultivating tools and later hoed.

Mr. Theodore M. Roemer, from the University of Halle, visited the station Monday afternoon. He is a member of an official Agricultural Mission from Germany to this country.

Maximum temperature 98, minimum 52; precipitation .01.

COLBY:

Weather continues dry which is good for the combines but not very favorable for the corn. Corn has begun to roll in the middle of the day and some of the plats and a few fields are showing slight drying effects. The experimental corn on the station was cultivated during the week. There was some moisture on the ridges but the soil in general is getting rather dry in the corn fields.

Colby, continued:

The balance of the winter wheat in the commercial field was but the first of the week and the spring wheat and oat plats on the rotations were harvested during the middle of the week. The spring wheat and oats were very badly burned by the dry weather on most of the plats, while on a few of them spring wheat and oats will be of fair quality and will give a favorable yield.

Some thinning was done on sorghums during the week and the two small fields remaining to be planted were planted to sorghums for feed. There remains to be done about three days thinning on the experimental sorghums. As soon as this is completed, threshing will be done.

Yields of wheat reported in the county to date have run from 2 to 26.5 bushels per acre. These are from fields that have been combined. Rather high yields are expected in the territory lying immediately north and west of here. The 80-acre field that went 26.5 bushels per acre was a field that had been summer tilled in 1924 by early spring disking, early listing, levelling the ridges, then working crossways with a spring-tooth cultivator. We personally visited this field and it was exceptionally even and with an early June rain could have made a very much better yield.

High evaporation and high temperatures have been much in evidence the past week.

HAYS:

Threshing of small grains was continued from the previous week, and finished Wednesday, July 1. This is the earliest date that threshing of small grains has been finished on the project except for two seasons when hail did the job.

The last part of the week was spent in cultivating row crops, fallow and alleys, soil sampling, general repairs and clean-up.

Temperature ranged from 63 to 103 during the week. On the night of July 3 a good rain occurred, the total rainfall for the week being 1.70 inches. However, considerable of this fell so rapidly it was lost by runoff.

GARDEN CITY:

The past week has been a continuation of the hot, dry weather. On several days during the week temperatures of 100 or more were recorded.

Garden City, continued:

In spite of the dry weather that has prevailed for the most part of this spring and summer, sorghums that were planted early enough to establish a sufficient root system are looking well and are making a satisfactory growth. Crops that were replanted or were planted late have not had enough moisture to cause germination. The skips on the plats having poor stands have been replanted by hand, but so far the seed has not germinated. Although most of the sorghums are about twelve inches in height there has not been sufficient weed growth to warrant cultivation. The last date of planting was made on the thirtieth in an extremely dry seed bed.

Corn is showing the need of moisture as well as the effects of the high temperatures.

Maximum temperature 103, minimum 65; precipitation, Trace.

DALHART:

The past week has been hot with just a few short spells of hard winds. The precipitation of last week has done a world of good even though it was not a general one. The atmosphere was not cooled off the least bit but the crops have shown an improvement.

The stands where reported ragged in the last report are so much improved that there is about twice the stand that is necessary. Thinning can be resumed within another week and will continue until everything has been thinned. The crops planted on June 12 that were partly emerged are now up to a thick stand.

Considerable work was accomplished this week. Four teams were kept busy all week and covered the entire station since the rain. The flat-planted crops, as well as the later plantings where furrow openers were used were harrowed. The harrowing of the flat-planted crops was necessary for two purposes, i.e., to break the hard crust and to prevent soil blowing. Soil blowing was in progress just after the rain to a very high degree, while the fields were too wet to touch, but fortunately the wind did not last over an hour. No damage was done to the crops. The plats were all covered with harrow, cultivators, etc., as rapidly as possible in order to check the possibilities of soil blowing and to save as much moisture as possible. All plats are trimmed to size.

Since the rain, some more planting was done. One increase field which was prepared for planting during June was not planted on account of a dry seed bed. At the time it was decided to leave this field for summer fallow.

Since the rain this field was drilled partly, (4 acres), to millet for feed and sunrise kafir for bundle feed.

Dalhart, continued:

The first date of feterita is heading, the second date is just entering the boot. The first dates of milo, sunrise kafir, dawn kafir and broom corn are just entering the boot. The first date of Sudan grass is fully headed and the second just heading. Everything is heading out short but may push up some before maturity.

The orchard, vineyard and other trees, etc., were cultivated this week. This puts them in excellent condition, they having been gone over just before the rain, also. The spring variety tree planting was hoed in order to kill out the growth of locust sprouts. These sprouts are giving plenty of trouble even growing, or trying to, out in the plats. Approximately 30 jack rabbits were killed during the week by shooting and poisoning. Grasshopper poison was put out this week with success.

A picnic was held at the station Thursday of this week. The Rotary Club entertained the Lions Club. A large crowd was in attendance and an enjoyable time was had by all.

TUCUMCARI:

Precipitation of .52 inch last night came when greatly needed, for the past week all crops have rolled or wilted extensively and it appeared growth was nearly at a standstill. The drought, following wind and sand damage, has caused some plants to die in the center field rotations as well as in increase fields, while cowpeas and cotton have never successfully recovered from the adverse weather conditions. Cotton was planted every ten days from May 10 to June 20 and the first date shows but very few plants. Due to wind damage and drought the other dates appear as if they had all been planted at the same time, although the earlier plats have numerous injured plants which are not evident on later plats.

The past week thinning of the center field plats and spacing plats was done, while all D.L.A. plats were cultivated, as well as all cotton plats, spacing plats, and a large amount of increase. Listed plats were harrowed. The tree planting was disked and hoed, as was the vineyard. Work was done at an opportune time, since most of the station crops were cultivated just previous to the rain of last night.

June just past was the windiest month since May, 1920, highest evaporation month since May 1918, and the hottest June since 1918. In the eight month period, November to June, there was received 4.42 inches of precipitation, compared with an average precipitation, 20 years, of 9.23 inches.

Maximum temperature 98, minimum 61; precipitation .52 inches.
Evaporation, 2.853 inches. Average hourly wind velocity 5.7 miles.

LAWTON:

During the last 15 days of June the maximum temperature ranged from 100 to 104 on twelve dates. Since May 16 precipitation in the form of four showers amounted to .65 inch. During the last week threats of rain have appeared daily and a few local showers have fallen but they were of little consequence.

Sorghum crops continue their signs of intense suffering from drought and the heavy infestation of chinch bugs. Alfalfa in most instances is not holding its own against grasshoppers.

The July planting of grain and forage sorghums has so far been omitted because of the dry soil.

WOODWARD:

The weather continues hot and dry. None of the crops on the station, with the exception of corn, are suffering from drought, though the leaves on some of the early kafir over the country are curling during the hot part of the day. Most of the crops on the station are rather late and so are not suffering.

Kafir on the D. L. A. project is probably 3 to 4 inches in height, and is being thinned at present. Thinning is also going forward on the Cereal project. Nearly all row crops on the station have been cultivated since the last rain. A date planting of the corn variety test was put in on July 1.

The June 10th and 20th dates of cotton have been thinned. Much better stands of cotton were obrained on the early than on the late plantings this season. This is the reverse of the usual results. The cotton in the May 10th date of planting is forming squares at present.

Truck growers in this vicinity are beginning to fight melon aphis. They are using a 4% nicotine sulphate hydrate lime dust. This strength has been found to give much better results than the weaker strengths usually recommended.

Persimmon trees in a grove near the station, which have been grafted to improved varieties during the past 3 or 4 seasons, have been pruned. A few of the grafts are bearing for the first time this year.

Maximum temperature 102, minimum 65; precipitation 0.
Evaporation 2.539 inches. Average hourly wind velocity 6.7 miles.

NORTH PLATTE:

The week has been dry throughout. Harvest has been in full swing. Grain has ripened so rapidly that it is difficult to keep up with it.

In addition to the harvest the entire crop of corn has been laid by, and the second crop of alfalfa in process of being put up.

Corn is waist high and a few tassels beginning to appear. This is fully two weeks in advance of the average development at this season.

Second cutting of alfalfa is much heavier than the first which is the reverse of the usual condition.

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JUL 11 1925

REPORT FOR WEEK ENDING JULY 11, 1925.

HAVRE:

The last three days of the past week were hot. The 7th and 8th were cool with a minimum of 39 on the 8th. A shower of .23 fell on the 6th.

Small grains are maturing rapidly and some are burning now. A rain would very materially aid in filling grain. Barley will be ripe in about 10 days. Corn is growing rapidly and is showing no ill effect from the hot weather.

Grasses and alfalfa have all been harvested. Corn cultivated twice and hoed. Weeds have caused more than the usual trouble due to the continued rain in the first half of June. At present the plots are fairly clean.

Maximum temperature 94; minimum 39; precipitation .23 inch.

SHERIDAN:

Hot weather has prevailed over the greater part of the week. Oats in the rotation field, and some of the early varieties, which had not begun to turn noticeably last week, ripened rapidly during the week and are about ready to cut now. Some of the barley also is ripe and winter wheat will be ready to harvest during the coming week. Heads on the most of the grain are shorter than last year, but seem to be fairly well filled. Corn is tasseling. This crop curled considerably during the hot days, but the ground is in good condition below the surface.

Weeds have continued rapid growth in all late seeded crops. Considerably more work has been required this year than usual to keep row crops even fairly clean. All corn and forage crops were given a second cultivation during the week.

Maximum temperature 95, minimum 49; precipitation .25 inch.

DICKINSON:

The fore part of the week was cool with two light showers while the last of the week has been clear and hot. Today the temperature is 100 with a brisk breeze.

Dickinson, continued.

Small grains are showing considerable effect of the heat and lack of water. Corn is wilting, though there is enough water in the soil to carry it for some time. Grains on the rotations are fully headed but quite spotted in height and stand. Grains on fallow, green manure, or potato ground have better stands as well as taller straw.

Winter wheat and rye are turning color.

The first stem rust was observed on the station this year on July 6. It has not increased to any extent since that date.

All corn was cultivated during the week and weeds chopped from the rows in the main rotations.

Dr. Charlotte Elliott, Pathological Laboratory, Washington, arrived at the station July 8 to spend about a week in studies on oat blast.

Maximum temperature 95, minimum 48; precipitation .37 inch.

MANDAN:

Agronomy

The past week was favorable for all field work. Haying was slightly delayed by light showers, but has been in progress all the week, and the remainder of the feed fields were cut and part of the hay hauled. All the hay from the experimental plats was hauled in. It is of excellent quality and the yield will be high. Alfalfa, which was badly checked by drought early in the season, made a heavy crop after the early June rains.

Small grains are all in excellent condition. The indications are for a big crop. Grains look better in the field than they have since 1915. There is some stem rust but it has made little advancement in the last few days. The wheat is well filled and some of it shows signs of turning. Peas were turned under for green manure early in the week.

Maximum temperature 93, minimum 50; precipitation .14 inch.

Cooperative Grazing Experiment

The pastures all continue in good condition, but grass is not making growth at present. The indications are that the native hay crop will be light.

Mandan, continued:

Horticulture

Fields and orchards have been cultivated and hoed for the second time this season. The gardens and vegetable breeding plats have also been hoed and cultivated.

Fruit trees have received their third spraying of the season. Plum gougers appear to be doing more damage than any other insect, although leaf hoppers are bad on the grapes. Aphids were very numerous last year, but have not caused much trouble so far this season.

Strawberries and raspberries were picked during the week, but yields were light. Currants are now being picked.

The sweet corn plat is coming along very well and shows many interesting types. The tomatoes in the breeding plat also show considerable improvement since the rain in June. The stand is poor, however, and the fruit in general will be late maturing.

The bluegrass lawns were irrigated again on July 10 and 11. The bromegrass lawns are standing the heat and drought very well so far, no watering apparently being needed for this class of lawn.

Aboriculture

Robert Wilson, travelling with C. A. Gillett, is inspecting shelterbelt plantings and land in course of preparation for tree plantings, in the neighbourhood of Minot, North Dakota.

E. J. George is likely to be in Scobey, Montana, on Sunday, July 12, and J. L. Emerson, who has been delayed by a breakdown, will probably spend Sunday in Isabel, South Dakota.

Almost invariably new cooperators have clean, well cultivated land, and have secured good stands from the planting stock shipped last spring. Field crops in most areas visited are making fine growth.

Mandan, continued:

Saturday, July 4 was the last day for the Mandan Rodeo, and brought large numbers of farmers and sightseers to the station. The address given by the Secretary of Agriculture, from a platform erected in the Northern Pacific park, appealed very strongly to the large farmer audience, and gave general approval. Visitors included Governor Sorlie, Commissioner of Agriculture Kitchen, Congressmen Hall and Sinclair, and members of the State Industrial Commission, from the state of North Dakota; President Coulter and Director Trowbridge from the North Dakota Agricultural College, and John Haw, Agricultural Division Agent, Northern Pacific Railway. A number of newspaper reporters, magazine writers, and photographers, were also in evidence.

Mr. F. E. Cobb, who has been appointed Superintendent of the State Forestry station at Bottineau, North Dakota, spent most of the week at Mandan, looking over the station work, and J. Allen Clark, from the Office of Cereal Investigations, visited on July 8 and 9. The Secretary of Agriculture and his Private Secretary left Mandan on Sunday evening, travelling to Minneapolis, Minn.

BELLE FOURCHE:

This has been the hottest and most disagreeable week of the season. Crops that were short of moisture have burned badly. The prospects of a wheat crop have been reduced at least 50 per cent. Some plats of wheat show as high as 60 per cent of blasted heads. The plats on fallow are still in fairly good condition, but a continuation of the present type of weather for a few days more would undoubtedly cause serious injury as all of these plats are commencing to fire.

The winter rye ripened and was cut the first of the week. The yield will be fair. The oats have undergone a forced ripening and most of them are cut. On Thursday an inspection of the plats showed six plats that looked as if they would be ripe enough to cut Friday. Friday was hot with drying winds and by Friday night at least two-thirds of the plats were ready to cut. Plats that were distinctly greenish in color Friday morning were dead ripe by evening. All plats of barley were harvested. The barley filled fairly well and will probably be of better quality than any of the other grains.

Today the temperature is 102 with a strong south wind. Relief must come soon in order to save the wheat. Practically all plats of corn have been curling during the heat of the day for the past two days. The corn is commencing to tassel but will be short unless rain comes soon. This is the earliest that the corn has ver started to tassel at this station.

Maximum termperature 102, minimum 48; precipitation .01 inch.

ARCHER:

The weather has been hot and dry with a few hot breezes during Friday. Some of the plats of small cereals are so badly burned that rain would do very little good while others are withstanding the drought very well. The winter wheat, generally, is in good condition. That seeded on other soil preparation than that of fallow is ripening very fast and the spring cereals are heading.

On July 9 a group of farmers from the northern part of Weld County, Colorado, visited the station. They come from a section where winter wheat is the main crop and great interest was displayed in the use of the duck-foot cultivator and furrow drill. Other station visitors were A. D. Faville, Commissioner of Agriculture, Mayor Archie Allison, of Cheyenne, Prof. W. L. Quayle and County Agent Leader Lobe, of the University of Wyoming, Mr. McCann, Director of Extension, Prof. Keser and Prof. Robertson of the Colorado Agricultural College, County Agent Simpson of Weld County, and County Agent Zeiger of Laramie County.

The work at the station has consisted of weeding.
Maximum temperature 94, minimum 52; precipitation .29 inch.

AKRON:

Corn and the other rowed crops have made good progress during the past week. The station still has its weed problem but the end seems in view. Early varieties of corn are tasseling at about waist height. Corn is curling some during the heat of the afternoon. Some harvesting has been done on the rotation plats. The grain is ripening unevenly, not on the plat, but unevenly over the plat field. The fallow plats were first to ripen, so that we have harvested winter wheat, oats, and barley, and have plats of these crops still to harvest. The second growth of winter wheat on the badly burned plats has delayed ripening of these plats considerably. No harvesting has been done on the variety project but it is anticipated harvesting will begin here early in the week.

Grain is very short except on the fallow plats, but on the whole very uniform in height and in head covering over the plats. All plats are weedy, the fallow plats so weedy as to greatly hinder the use of the binder. The bulk of the plats have been harvested with the new mower with reaper attachment which attachment seems much better than the buncher attachment in that there is no loss through dribbling grain over the plat.

Akron, continued:

The rye, the oats, the peas, the mixed peas and barley on fallow have been harvested for hay off the annual forage variety experiment. These same plats on small grain stubble are still small and stunted. The fallow strips were partly cultivated but work here was delayed because of a need for a part for the tractor. The sorghums and the sorgo in the variety experiment and in the nursery were cultivated and hoed during the week. The old mower was used in mowing weeds off the alfalfa seeded this spring, and around the fence lines of the station.

Mr. R. H. Feltz, District County Extension Agent, and Mr. R. W. Vance, County Extension Agent, spent Wednesday afternoon at the station during which time they demonstrated "Cyanogas", Calcium Cyanide as a destroyer of the Prairie Mound Building ants.

Maximum temperature 97, minimum 56; precipitation .24 inch.

NORTH PLATTE:

The week has been dry and hot throughout.. No rain has fallen during the month to date, although showers are reported from surrounding localities. Harvest on the station is completed except for a few late variety plats. Threshing will be started the coming week if weather continues dry.

Corn has stopped rapid growth and is beginning to roll during the day.

Visitors during the week included Messrs. M. A. McCall, of the Cereal Office and O. C. Kukula, of Czecho Slovakia.

COLBY:

Weather continues dry. The D. L. A. corn plats and a few commercial fields show the effect of the continued dry weather. The surface planted corn plats on fall plowing and some of the spring plowed corn plats show the effect of the dry weather quite noticeably. Most of the listed corn is not drying badly but is rolling considerably. The days remain hot with a minimum of wind, The earlier corn is just starting tassels. Rain for the early corn must come soon or a short corn crop can be expected. Sorghums in most fields and on a few plats are drying and show the lack of moisture. This is even true of some of the smaller sorghums. Sorghums on the D.L.A. have all been thinned. The small field used for continuous Sudan Grass pasture is drying very noticeably. It is at about 12 inches high now.

Colby, continued:

No threshing was done during the week though everything was gotten in readiness for threshing. Threshing will start the first of the coming week.

Fairly satisfactory stands were secured on one field of sorghums planted the first of this month.

Visitors during the week included Director L. E. Call, of the Kansas Experiment Station, and State Irrigation Commissioner Geo. S. Knapp.

The nights, for the past three weeks, have been very warm for this part of the State. The maximum temperature during the week was 102.

HAYS:

Although the temperature has exceeded 100 but one day during the week, people seem to have noticed the heat more than usual. This probably is partly due to the fact that there has been very little wind and considerable moisture in the air due to the rain of last week.

Alfalfa and all row crops have been making fine growth, although some wilting was noted yesterday and today in the row crops.

The work on the project during the week has consisted largely in plowing and listing for winter wheat, also some disking. The stubble ground is generally pretty weedy, due to thin stand of wheat and a good rain the latter part of June. In spite of the fact that there has been over four inches of rain since the wheat crop was matured or dead, some of the stubble plats are turning dry.

Dean Call, of the Kansas State Agricultural College, spent Friday on the Experiment Station.

More rain was reported in the vicinity of Hays than was recorded on the station.
Maximum temperature 101, minimum 68; precipitation .06 inch.

GARDEN CITY:

High temperatures have prevailed throughout most of the past week. There have been only two days so far in July on which the temperature has not reached the 100 mark. A shower netting .07 of an inch of moisture was received Thursday night. Good rains have been reported in this part of the state, but so far the station remains dry.

Most of the sorghums are making a satisfactory growth in spite of the hot dry weather. Although corn rolls badly in the heat of the day it seems to be growing and has not fired as yet.

Field operations for the week have consisted of plowing the two plats in the method of fallow series; cultivating all surface planted row crops, using duck foot instead of cultivator shovels; and hoeing roadways.
Maximum temperature 104, minimum 67; precipitation .25 inch.

DALHART:

This has been another dry hot week. Two small showers were recorded, one of .06 and the other of .08 inch, but the hot weather which followed caused more damage than the rains did good. The weather has been somewhat threatening several times this week but turns off excessively hot each time. The temperature got to 100 today for a short time then dropped to around 96 with increased cloudiness.

Most of the crops have progressed nicely in spite of conditions. The first dates of milo and broom corn are suffering badly. The broom corn has fired most of the way to the top while the milo is getting very pale and dry looking. The milo is heading. The feterita is pretty well headed and is looking pretty good in spite of conditions. The grass in the range is quite dead looking and affording very little pasture.

The milo on all rotations and varieties, as well as the variety grain and forage sorghums, were thinned this week. The June 1 and 10 dates of cotton were thinned and the June 20 date will be thinned the first of the week. Counting of stands of the crops on the rotations was commenced this week. The cross arms and wires were put on the grape trellis this week to accommodate the large growth of the grape vines. It was thought that the cross arms would not need to be put on before spring but the heavy growth of the vines made it necessary to do the work at this time. The vines are trained in good shape and are making a good cover over the entire trellis. Many of the trees were watered this week. This included mostly the variety planting that was made this spring.

TUCUMCARI:

Temperatures have been unusually high the past week and month, while only 0.52 inch precipitation has been received in three weeks. Early planted crops have made good growth, but are rolling extensively, while even the late planted crops require more moisture. Precipitation this year to date totals 4.43 inches compared with a twenty-year average of 8.53 inches for this period. Cowpeas and cotton have never recovered fully from the wind and hail of June, although sorghums fully recovered where the damage was not too great.

Thinning, cultivating, and harrowing have progressed well the past week. Increase cane, planted with a lister, was knifed and harrowed and seems to be growing faster than any other crop, with the exception of the north field plats. The center field plats were planted only four days later than the north field, but have been much poorer throughout the season--plants are smaller and stands less satisfactory throughout the entire field.

Local rains continue to fall throughout this section occasionally, but in some neighborhoods it still is so dry planting has not been done. Conditions over the county are in most cases very poor, although a few isolated spots have had abundant moisture to make crop prospects good. Cotton is a very unimportant crop this year, for a small acreage was planted, much of it was killed by wind and sand, and what is left is in most cases late, uneven in stand, and weak.

Maximum temperature 98, minimum 65; precipitation 0.

Evaporation, 2.563 inches. Average hourly wind velocity 5 miles.

BIG SPRING:

Weather during the past week has continued hot and dry. A rain of .54 inch fell on July 1, but this was not enough to have any lasting effects. These light rains have only soaked down a few inches, thus causing the roots of plants to spread out instead of going down. As a result, those shallowed rooted crops such as the grain and forage sorghums have started to roll considerably during the past week. If it does not rain within a short time these crops will be severely damaged. The other crops such as cotton and cowpeas are not showing the effects of the dry weather as yet.

Work during the past two weeks has consisted mainly of cultivating, thinning an increase field of milo and in cleaning out roadways. The July 1 date of seeding was made on time; this planting was made just before the last rain so all plats came up to a good stand.

Maximum temperature 101, minimum 62; precipitation .54 inch.

LAWTON:

A few hours of temporary relief from the intense heat of the week followed a shower of .33 inch on the evening of the 11th. Heavy rains were reported at Enid and Alton, Okla.

Some of the sorghums are forming heads in the boot but a decided change in climatic conditions will be necessary to permit further satisfactory growth and development. Dwarf feterita is showing a few heads but the plants are not more than 1½ to 2 feet tall.

Cotton bloomed quite freely during the week but the young squares were soon shed. The plants are very small and it now seems that only a late top crop will be produced and that depends upon considerable rain.

Broad-cast cane, millet, sudan, and alfalfa and sweet clover that were seeded in the spring are practically dead. Jack rabbits have injured some of the cotton plats severely and ruined one plat of peanuts. They are also feeding heavily on a few rows of soy beans.

What remains of the corn crop will be harvested on the 13th. The crop is so badly burned up that the stover weights will hardly be worth saving.

Maximum temperature for the week 106, precipitation 0.33 inch.

WOODWARD:

The weather has remained hot and dry. The maximum temperature has been above 100° five of the last seven days, and the minimum has not been below 70° since July 3.

Thinning has been completed on the D. L. A. project. This has been followed up by cultivating all plats with the exception of corn.

All fruit trees which were set out this year have been watered. Other work has consisted of cultivating field crops, hauling sand and gravel, and putting in foundation for the feed barn on the dairy farm.

Corn has a very small chance of making any crop worth while unless rain is received immediately, and even then it will be cut short. Other row crops are still small, but are growing rapidly.

Woodward, continued:

The total precipitation from January 1 to June 30 has been only 7.25 inches, the 29 year average for the same period is 12.27 inches. Precipitation since July 1 has been only .03 inch.

Maximum temperature 103, Minimum 71; precipitation .03 inch. Evaporation 3.086 inches. Average hourly wind velocity 6.7 miles.

NOTE:

The field men responsible for securing data and preparing reports on Dry-Land Agriculture investigations will please observe the instruction to determine and record the weights of plat products to the nearest number of whole pounds. Determinations of plat yields in fractions of pounds are undesirable.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 18 1925

REPORT FOR WEEK ENDING JULY 18, 1925.

JUDITH BASIN:

No precipitation of any benefit has been received thus far during July, and unusually warm weather has prevailed during the greater portion of the past two weeks. Strong hot winds have occurred on several days, and conditions as a whole have been very unfavorable to small grains. With the exception of corn and potatoes, all spring crops have been injured to a great extent. Spring wheat and barley have burned badly, and late seeded wheat will be almost a total failure. Due to the hot dry weather, oats matured exceptionally early, and most of the oats on the rotations have been harvested. Barley is ripening very rapidly and will be ready to harvest in a few days.

Work in the field has been devoted chiefly to stacking hay, cultivating corn, harvesting oats, roguing plats, weeding alleyways, and mowing weeds.

Mr. J. A. Clark, of the Office of Coreal Investigations, arrived at the Station on July 18 for a visit of several days.

Maximum temperature 97, minimum 45; precipitation, Trace.

HUNTLEY:

High temperatures and hot winds during the past week have hastened the maturity of small grains and caused some burning in other crops. Nearly all of the plats of oats and barley are ready to cut as are several plats of spring wheat and flax. Most of the oats have "dried" ripe and the yields will be small because of poor stands and shrunken grain. Spring wheat has fared somewhat better and about average yields are expected from most of the treatments with this crop.

Fall pigs were removed from the perennial pastures on July 17 and spring pigs were changed from the grain pasture to the plat of field peas. The peas have made practically no growth for some time and the forage offered by this crop is very poor this year.

The plowing under of the green manure crops was completed early in the week. While the soil was too dry to plow well a rain of 0.21 inch aided in reducing the plowed land to a fair state of cultivation.

Maximum temperature 104, minimum 48; precipitation .21 inch.

SHERIDAN:

The weather throughout the week has been hot and dry. Oats, barley, winter wheat, and some of the earlier varieties of spring wheat ripened fast. All of the barley, and all but a few of the slower ripening plats of oats and winter wheat in the rotations have been harvested. Some of the earlier ripening varieties of oats, and all but four plats of the varieties of barley also have been harvested.

Although range grass is still good where not kept too close, it has dried fast. Corn curled considerably during the day throughout the week. Most grain crops do not seem to show much effect from the heat yet, but yields of the later varieties probably have been diminished considerably. Late forage crops have continued to make good growth, except millet, which seems to have dried considerably.
Maximum temperature 105, minimum 55; precipitation, Trace.

MANDAN:

Agronomy

The past week has been hot and dry. The heat has caused premature ripening of the small grains which will reduce the yields. Wheat is ripening fast and harvest will no doubt be starting over this section next week. Rust did not develope enough to do any damage to the wheat in this area.

The last of the hay from the feed fields was hauled in early in the week. Corn and cane in the feed fields were cultivated. Corn is starting to tassel. The crop is two to three weeks farther advanced than last year.

Winter rye and some crested wheat grass for seed were harvested today. Winter rye [illegible] over this area.
Maximum temperature 101, minimum [illegible]; precipitation .07 inch.

Cooperative Grazing experiment

Grass on the pastures still remains in good condition for grazing, but is starting to dry up in a few spots.

Sweet clover, which was seeded this spring, has made a fair growth, but is thin where the yellow kind was sown. Russian thistles have come up all over the area; they are now in many places a foot high.

Mandan, continued:

Ten heads of steers were turned into this pasture the middle of the month. It is hoped that they will be able to clean up the weeds and make some use of the young sweet clover.

A farm adjoining the grazing land on the east was recently sold for $20.00 per acre. It contains 540 acres and only about 100 acres is plow land.

Horticulture

Hoeing and cultivating has been in progress on the grounds in the gardens and vegetable breeding plots, and also in the orchards.

Bagging of silks in the sweetcorn selfing project has been started, and will be in full swing next week.

Harvesting and yield taking of various vegetables in the acre-garden is being carried on. To date these vegetables are ready:- potatoes, peas, waxbeans, carrots, late cabbage, and cauliflower. All have been of good quality, but most are now beginning to suffer from lack of moisture with resultant deterioration in the products.

Currants have been picked. Large fruited varieties such as Perfection, Cherry, and Chautauqua bore very light crops this year. London Market and Red Dutch were the heaviest yielders. Some trouble has been encountered in Currant variety testing on account of varieties not being true to name.

Gooseberries were also picked but yields were light. Houghton seems to be the hardiest and highest yielder among those being tested. Gooseberries were severely damaged by the hot weather of last week, many of the berries being scalded or burned on the bushes.

Raspberries are yielding fairly well, but are now in need of rain. Strawberries are practically a failure this year. Golden currants are ripening, but the yields will not be as good as last year. There is no fruit on P. tomentosa bushes, due to the spring frosts. Juneberries are bearing but a very light crop.

The horticultural nursery was irrigated on July 14 and 15, and stock to be budded this year has been hilled up with earth.

Mandan, continued:

Arboriculture

Shelterbelt inspectors continue to report good stands of trees from the plantings shipped last spring, and apparently the County Agents responsible for the selection of cooperators are using good judgment, and are encouraging farmers, applying for plantings next spring, to have their land well prepared and clean. The inspectors report a period of intense heat and hot winds which appear to be doing some damage to the small grain crops.

Some ten cars, containing members of the New Salem Holstein Dairy Circuit, visited the station on July 17. Bringing both lunch and supper with them, considerable time was available for inspecting the fields and plots with the assistance of the Station staff responsible for the various projects.

Dr. H. B. Humphrey, Dr. W. H. Tisdale, Dr. Olaf S. Aamidt, Pathologists, Office of Cereal Investigations; Dr. E. C. Stakman, Pathologist, University of Minnesota; J. Allen Clark, Agronomist in Charge of Western Wheat Investigations; M. W. Talbot, Weed Investigations; L. R. Waldron, Professor in Plant Breeding and T. E. Stoa, Assistant Agronomist, N. Dak. Agricultural College, were among the visitors of the week.

BELLEFOURCHE:

There were some extremely hot days the first part of the week and the whole week was hot and dry. Crops suffered severely the first few days, but the firing almost ceased when more moderate temperatures prevailed. A few plots of wheat were injured so badly that they will be nearly a failure. All plots were damaged to some extent and the grain will probably be poorly filled on most plots. Some of the wheat is ripening and most of it should be ready to harvest next week.

All but one of the oat plots are now harvested. About half of the winter wheat plots are harvested and the remainder are now ripe. The plot of winter wheat on fallow is the best plot of grain on the rotations.

Bellefourche, continued:

Corn has been curling during the hot part of the day every day for the past week. It does not seem to be severely injured as yet and is tasseling out. All of it is short. The potatoes are firing and will without doubt stop growth very soon unless rain comes.

The County Agents from Western Nebraska visited the station on the 17th. Mr. Leroy D. Willey, formerly of this office but now County Agent in Nebraska, visited the station on the 14th. Mr. W. W. Burr, Agronomist at the University of Nebraska, spent a short time at the station.

The annual Club Camp for boys and girls was held during the week. There were 75 in attendance. The Farm Picnic was held on the 18th. The attendance was estimated at 2,000.

Maximum temperature 101, minimum 50; precipitation .07 inch.

The total rainfall for July to date is .27 inch.

ARDMORE:

During the past two weeks heavy rains have fallen generally throughout the country and in the vicinity of Ardmore, but there has been no precipitation of any consequence on the station since the first week in June. The total precipitation recorded at this station during the month of June was 4.02 inches; 3.59 inches of this total fell during the first week of the month. In July the total precipitation to date (July 12) has been .65 inch.

All crops have suffered for moisture. Small grain crops have been hurt the worst. Corn in heading and is burning badly as there is almost no soil moisture available for plat use even in cultivated fields. Alfalfa has been harvested. The yield on the larger fields was approximately one-half ton per acre.

The annual Farm Boys and Girls Camp was held during the week with a good attendance. The annual Farmers' Picnic was held on July 10. The attendance was smaller than usual; only about 1,000 being on the grounds at any one time.

Steers used in the grazing experiment were weighed the last of June. The average gain per steer for the 30-day period was as follows:

Ardmore, continued:

80-Acre pasture	81.0 pounds
150-Acre pasture	93.5 Do
160-Acre rotation pasture	94.4 Do

Maximum temperature 98, minimum 52; no precipitation.

ARDMORE:

The week has been exceptionally dry and hot with high winds and no precipitation.

Most of the small grain on the station has been harvested. It appears that the yield will be light. One field, containing 22.5 acres of barley, was harvested with the combine because the straw was too short to use the ordinary grain binder. The yield was 30.3 bushels per acre.

Corn and all forage crops are badly in need of rain. Sorgo is heading and had attained a height of only about two feet. Alfalfa has made no growth following the first cutting, and alfalfa hog pastures are very short.

Maximum temperature 103, minimum 55; no precipitation.

ARCHER:

The weather has been very hot and dry. The average maximum temperature for the week was 92.4 degrees and the maximum 98 degrees. This is the highest temperature recorded in the history of the station and only 2 degrees less than the maximum since 1871. The average minimum was 59.7 degrees. On July 15 the temperature was 96 with a high wind. A shower of .20 inch, which occurred Friday evening, gave some relief, but today, July 18, the corn rolled badly. While these temperatures are not high as compared with lower altitudes, their effect is very severe. Unless there is substantial relief in the near future most of the spring seeded crops will have been burned so badly that there will be little left to harvest. Some of the plats are burned bare now.

The winter wheat is ripening very fast and some good yields are expected. Most of this crop on the Dry-Land plats was harvested July 16. The entire crop will be ready to harvest in a few days.

Archer, continued:

The last of the weeding is in progress. The 17 acres of oats in the general field have been cut for hay. A very light yield will be secured.

The pastures are very dry, and the cows are falling off very rapidly in their milk flow.

Maximum temperature 98, minimum 55, precipitation .20 inch.

AKRON:

Excessively hot weather - in line with reports from all over the Great Plains Area - has characterized the past week. The temperature has been 90 or above on each of the past seven days. Maximum of 105 was reached on the 16th. Corn is suffering but the sorgos and the grain sorghums continue to make nice progress. Some of the corn is beginning to tassel and this week end several tassels are found brown and burned. Small grains ripened as by magic, almost overnight. Harvesting of the spring wheat was completed on the rotations early in the week except a few taller, later growing plats, which were left to be harvested with the bundle-hooker. The Cereal winter wheat plats were harvested and threshing was completed today noon, July 18. This afternoon the sheep rotation 51 barley field was being threshed but not completed so no record of the yield is yet available. The Cereal winter wheat plats averaged 5.2 bushels per acre on fallow and 4.8 bushels per acre on corn ground. The straw was so short that it was necessary to reap them with the mower, the straw being too short to bind. A storm came up last evening and scattered the bunches then remaining so that no seed was saved of Kharkov 6686, Sherman 4430, Karmont 6700, Minturki 6155, and Alton 1438. It is thought seed of these varieties are available from past seasons. The Kanred and the early Kanred Selection were among the low yielders, the Selection outyielding the Kanred by a small margin.

Tractor repair parts were received and the remainder of the fallow strips cultivated. The Sorghum and sorgo nursery was thinned. Some time was found for anchoring the outside fence corners in cement. The sod plats of rotations 41, 42, 31, and 32 were plowed and packed. No sod crop on any of the plats but a good covering of weeds, mainly thistles.

Akron, continued:

Mr. D. W. Robertson visited the station Wednesday in the interests of the cereal work and left Mr. Warren Leonard to aid with harvesting and threshing.

Maximum temperature 105, minimum 60; precipitation .05 inch.

NORTH PLATTE:

Hot dry weather continues. Another week has passed without rain. Temperatures ran above 100 degrees for the first three days of the week and reached 107 degrees on the 15th.

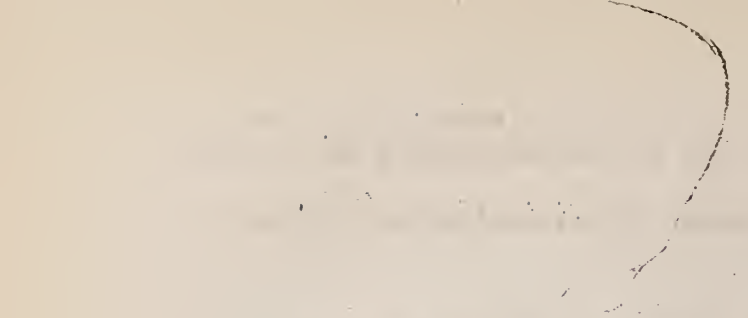
Corn and sorghums are burning badly.

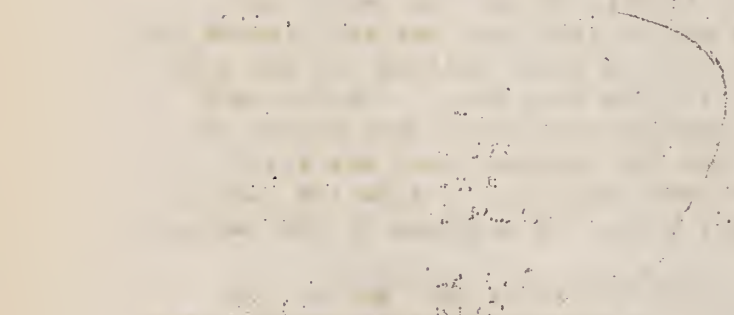
Threshing is in progress. Grain yields are somewhat better than had been anticipated and the quality is very good. The maximum yield of wheat on the D. L. A. rotations was 30.5 bushels after fallow. The lowest yields was 1.4 bushels after wheat.

COLBY:

Weather still continues dry with only an occasional shower here and there. Yesterday evening we had a shower which measured only nineteen points. In localities enough rain fell, however, so that some good should result. In general in this immediate vicinity the corn has been very severely punished and some fields could not make corn should rain come now. Some of the corn is dried very badly. The corn on the Station is just coming into tassel, except that which has burned too badly. That on fallow and on land that was well farmed the year previous but did not raise a crop is still holding out and with a good general rain soon could still make good corn. The days and nights are hot. The temperature remains very much above normal for this time of the year. The sorghums for the most part are still holding their own; though they too are beginning to show the lack of moisture on the land that had a low supply of moisture in the beginning.

Some threshing was done during the week. Not all of the D. L. A. plats have been threshed. The barley and winter wheat plats were threshed and the rate and direction of seeding test with the furrow and press drills were threshed and weighed. The commercial field of barley was threshed. Winter wheat yields varied from 2.6 bushels per acre to 22.5 bushels per acre. The fallow plats of winter wheat were fairly, uniformly good. These were just finished being threshed this evening and not all of the yields have been calculated and checked.





Colby, continued:

With favorable threshing weather the threshing should be completed before the end of another week. An effort is being made to save all of the straw as prospects for additional feed for livestock are not very promising.

The D. L. A. listed sorghums and the commercial field of early sumac were worked during the week. The balance of the time was spent in threshing.

GARDEN CITY:

No relief from the hot dry weather that has prevailed throughout this part of the country has been received. The sorghum crops on continuously cropped plats are standing still while those growing on fallow are making a fair growth. Corn is fast drying up.

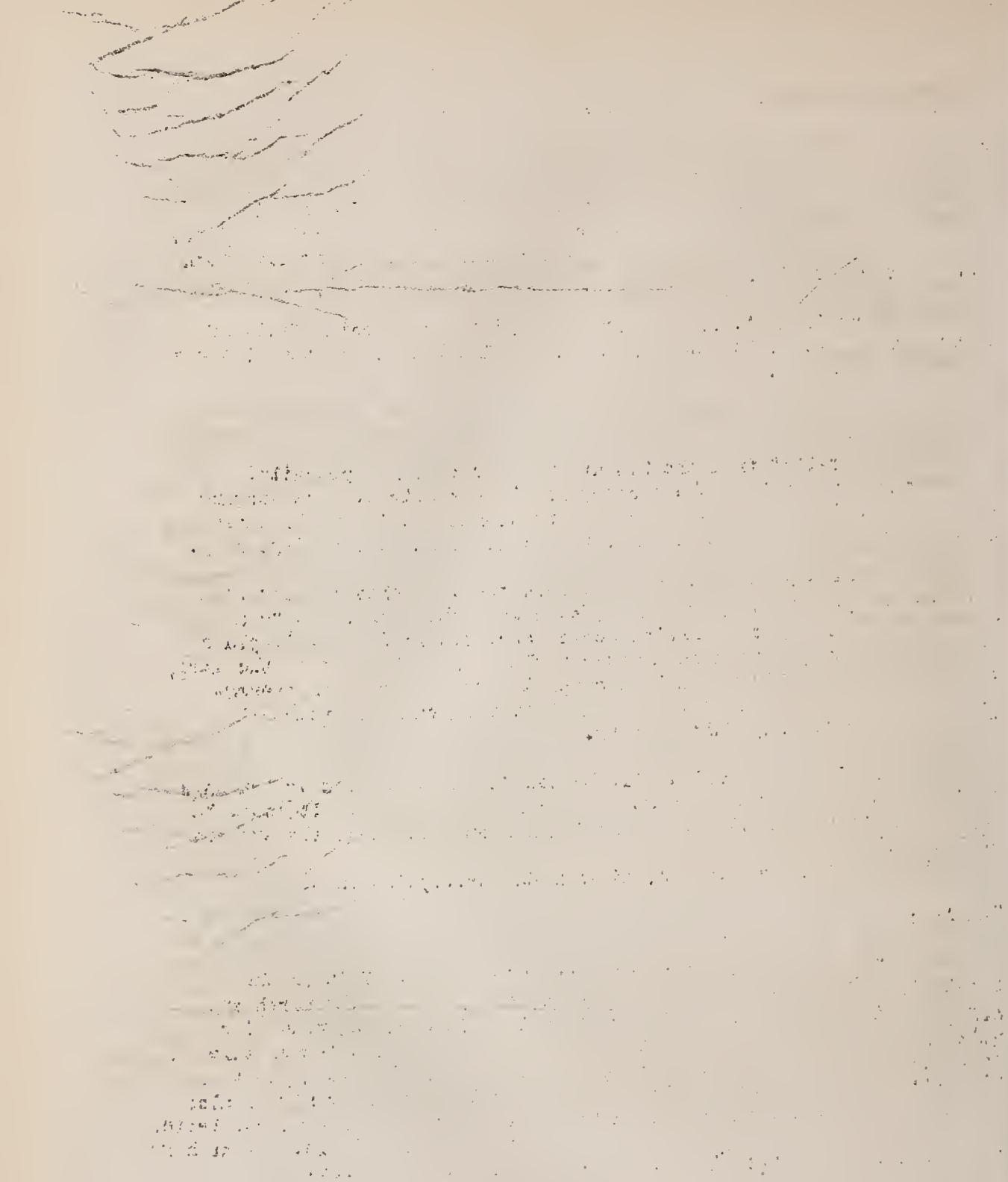
Winter wheat was threshed this week. Yields ranging from nothing on plats M, C, A, B, and E, to 24.8 bushels to the acre on Plat H of the methods of fallow series were recorded. The 13 plats grown on fallow produced an average yield of 16.9 bushels to the acre, while the 15 plats grown on land cropped last year gave an average yield of 4.2 bushels to the acre. All of the grain was somewhat shriveled and of only fair quality.

Early fall plowing will be postponed for a week or ten days in the hope that rain may be received during that time. It would be impossible to do a good job of plowing now on account of the dryness of the soil.

Maximum temperature 103, minimum 63; precipitation 0.

DALHART:

This has been a dry, hot, and windy week. This is the first time the writer has experienced a hot wind from the north and northeast in this section. On two days of this week the wind blew quite hard and unusually hot from those directions, the temperature on these days being 101 and 103, respectively. There has been plenty of wind all week. There was a local rain here last Saturday night, also on Sunday night, but it localized on other spots. In some places better than 3 inches fell and plenty of soil moisture is available. Right here the total recorded was .19 for Saturday and .04 for Sunday.



Dalhart, continued:

Crops on the station generally are looking good in spite of the prevailing conditions. The broomcorn is fired to the top and the milo on the first two dates is looking rather sickly. The first date milo is just now heading good, the heads being quite small. The Dawn kafir is coming into head with Sunrise just behind it. Cropping conditions over this immediate section are, in the opinion of the writer, just a little better at this time than they were last year. Some sections are in better shape while others are in worse shape, but the general average is fair. The winter wheat is averaging from 8 to 10 bushels. There was no spring grain crop this year, all oats and barley failing to get a stand or make a crop. The country lying from 20 miles north and east of Dalhart, on up into Oklahoma, is in very bad condition. The farmers over this territory have not planted their crops, having had no rain.

Mr. W. H. Upchurch, formerly Teamster of this station, brought a group of Hartley County farmers to the station Friday of this week and spent most of the day. They had a picnic dinner. Mr. Upchurch is County Agent of Hartley County. The farmers are new settlers here, coming from Collin County, Tex. They are somewhat discouraged with conditions this year and were quite blue. They were well pleased with the sight of crops on the station, having gone over the entire station during the afternoon. They promised to return in about a month and look things over again. The farmers showed considerable interest in everything being carried on here. They were particularly interested at seeing the sweet clover which has grown in the blue weed patch. This patch of blue weed choked all other crops out several years ago. It was then seeded to sweet clover and is now mostly covered with a good stand of clover. The clover and blue weed make close friends, the clover growing as if nothing were there to compete. This small patch of clover has made excellent pasture since May and is still good pasture. There is considerable acreage of this weed in this section.

TUCUMCARI:

Weather the past week has been so hot and dry, with two days of hot winds, that most crops have rolled and fired greatly, with but very little growth being made. The early milo is heading prematurely, with small heads, while later planted milo and later maturing varieties may delay heading until rain is received.

Tucumcari, continued:

Crops in the greater part of this portion of the state are in very poor condition, due to poor stands, lateness, and drought injury. Ranges are dry and brown, while livestock in most cases is in very poor condition.

Rainfall in 1925 has totaled 4.55 inches, compared with an average precipitation for this period of 9.33 inches. Precipitation the past nine months totals only 5.06 inches, compared with an average for this nine month's period of 11.43 inches. The soil is so dry that only an unusually heavy rainfall the next two months would make fair crop yields, but a surprisingly small amount of crops are beyond recovery in case rains come.

In a 600 mile trip over the northeastern portion of the state the past week not over a dozen dry-land fields of row crops in first class condition were seen, while abandoned fields were frequently passed. Ranges below the 6,000 or 7,000 feet level are dry and brown, while dead cattle were plentiful. Irrigated sections in the mountains showed good crops in most instances and pastures were good, although there is a water shortage, due to the light snows of the past winter.

Thinning of plats has been completed, while cultivating and sledding of plats and increase fields has been in progress.

Maximum temperature 106, minimum 64; precipitation 0.11 inch.
Evaporation 3.269 inches; wind velocity 6.1 miles.

BIG SPRING:

Although several good chances for rain have occurred, the weather during the past week has remained hot and dry. On July 15 the thermometer registered 104, which is the high mark for this year.

All crops are badly in need of moisture, but milo seems to be showing the effects of the dry weather more than the others. Milo on spring plowing is rolling badly, and, if rain is not received within the next few days, many of the plats will not recover.

The second date of Sudan grass was cut this week, only a light yield was obtained. Other work for the week has consisted of hoeing out roadways and fence rows and in cutting the stray weeds out of the plats.

Maximum temperature 104, minimum 66; precipitation .03 inch.

WOODWARD:

The weather continues hot and dry. Only 0.04 inch of precipitation has fallen since June 27. A very hot wind is blowing today (July 18).

The row crops on the D. L. A. project are making good progress, the kafir and milo . . . varying from about 6 to 15 inches on the various plats. The corn is suffering from lack of moisture, but other crops with the exception of the CC-A and F plats are in good shape. The F broomcorn will probably be a total failure, the stand is very poor, the plants are only about 2 inches tall and are dying from the effects of drought, while the plants on G are 6 to 8 inches tall. The contrast between A and B broomcorn is also greater than in any of the other crops.

Cotton has been dusted with nicotine hydrated lime dust to control aphis. Some of the bolls on the May 10 date of planting are 3/4 to 1 inch in diameter. The May 20 date is fairly well covered with small bolls, and all varieties in the June 1 date are starting to bloom.

The lister ridges in a rye field have been split. Several fields of row crops have been gone over and the large weeds cut out with hoes.

A few varieties of grapes were picked July 17, the earliest in the history of the vineyard. Some crabs, peaches, and plums have also been picked.

All of the fruit trees set out this spring have been watered for the second time. Several loads of kafir heads which have been stacked have been hauled in to be threshed.

Maximum temperature 100, minimum 62; precipitation .01 inch.
Evaporation 2.566 inches; average hourly wind velocity 5.4 miles.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 25 1925

REPORT FOR WEEK ENDING JULY 25, 1925.

HAVRE:

Rainfall the past week amounting to .90 inch, recorded on three days, is the first rain of any consequence since June 17. This, accompanied by cool weather has been of great benefit to all crops. Real early seeding of grain suffered from drought because of the heavy growth of straw. Late seeding that was not well established before the dry weather has also burned badly. This is heading with short straw and short heads. Medium early seeding was damaged to some extent but should be greatly benefited by present conditions.

Corn suffered very little from drought and has made rapid growth the past few days. The early flints are in tassel with fair to good height for these varieties. Northwestern Dent on the plats is also showing tassel.

The Club Boys' Camp, consisting of boys from Hill and two adjacent counties, started on the 20th and ended on the 24th. The annual farmers' picnic was held on the last day. The attendance was about 800, composed of a large percentage of farmers. The attitude of the farmers and sentiment of the crowd was unusually good.

Chancellor M. A. Brannon and John Pyle, of the South St. Paul Cooperative Marketing Association, gave the principal talks.

Mr. J. A. Clark, of the Office of Cereal Investigations, was a station visitor on the 21st.

JUDITH BASIN:

Cool weather and a few light showers afforded temporary relief to spring wheat and later maturing crops which had been suffering seriously from the exceptionally hot, dry weather of the previous two weeks. With the exception of spring wheat, all small spring grains have been maturing very rapidly. All of the oats, most of the barley and a few plats of flax on the rotations have already been harvested.

Field work has been devoted chiefly to harvesting on the rotations and commercial fields, cultivating row crops and cleaning up in general.

Judith Basin, continued:

The annual farmers' picnic was held at the station on July 23, and the usual program of sports, speaking, etc., was held. Over 800 automobiles were parked on the picnic grounds, and the attendance was estimated at about 4000. Speakers for the occasion were, Director F. B. Linfield of the Montana Experiment Station, Mr. A. H. Bowman, State Commissioner of Agriculture, and Mr. B. C. White.

Maximum temperature 79, minimum 41; precipitation .38 inch.

HUNTLEY:

Cooler weather during the week has aided in the filling of grain and has been a relief to corn which had begun to suffer from high temperatures and hot winds. Sorghums, beans, potatoes and garden crops all show the need of rain to a more marked degree than does corn.

Wheat harvest is in full swing throughout the county and in a few cases threshing has been completed. On the plats the earliest maturing treatments with wheat, oats, barley and flax have been cut. These crops on fallow and some of the green manure rotations are ripening more slowly and will not be harvested for a few days.

Other than harvesting operations, field work has consisted in cultivating the fallow plats with the duckfoot and hoeing row crops to get the scattered weeds left by the cultivators.

Maximum temperature 89, minimum 44; precipitation .14 inch.

SHERIDAN:

The past week has been considerably cooler than the previous week. Grain has not ripened quite as fast, and corn has improved materially in appearance. Harvesting has been in progress throughout the week. Of the small grains, only the spring wheat yet remains to be harvested. Some of the earlier varieties of this crop, and some of the check plats in the rotation field, have been harvested. Wheat in the rotation field is ripening fast, however.

A picnic was held on the station the 23rd in connection with the county Farm Bureau. While the attendance was not quite as large as last year, a considerably larger number of farmers attended, and there was much more interest in the station work. Senator Kendrick gave a brief talk.

Among the visitors of the week were Mr. John Martin of the Cereal Office, and Mr. Robert Wilson of the Mandan Station.

Maximum temperature 94, minimum 46; precipitation, Trace.

DICKINSON:

Cool, dry weather has continued through the week. This was needed to permit grain crops to fill. The heat of the previous week, together with the dry weather, has greatly reduced grain yields over early prospects. The outlook now is for a wheat yield about half that of 1924.

Winter wheat and rye on the rotations, varieties of these crops seeded in stubble, and early varieties of oats and barley were cut July 20. Some other varieties of oats and barley were cut during the week.

The first date of cutting of marquis wheat was made July 24, with the wheat in the soft dough stage of maturity. There is no rust this season but the experiment is continued to obtain yield and chemical data.

The Bangalia, an early variety of field pea, was cut July 24. Other varieties will be ripe in a few days.

About two acres of crested wheat grass in rows was cut for seed and the grass varieties cut for hay.

Corn is tasselling short as a result of the hot weather last week. This crop as well as other forage crops would be benefited by rain. It is doubtful if rain would improve grain crops except late planted fields.

The Annual Picnic was held on July 18 with a fair sized crowd in attendance. Congressman J. H. Sinclair and Mr. Robert Wilson were speakers.

Visitors during the past two weeks include: Mr. M. W. Talbot, Weed Investigations, Messrs. J. A. Clark, C. S. Reddy, W. E. Brentzel and T. R. Stanton, Cereal Office; Robert Wilson, Mandan, Congressman J. H. Sinclair, Kenmare, L. R. Waldron and T. E. Stoa, Fargo, and M. B. Johnson, Bureau of Agricultural Economics.

Maximum temperature 89, minimum 39; precipitation .03 inch.

MANDAN:

Agronomy

Cool and cloudy weather has prevailed during the week with threatening rains. Inasmuch as conditions during the previous week were so hard on crops, it is fortunate that the weather had such a favorable turn. Small grains under nearly all conditions of culture showed some damage from the extreme heat, but were much relieved by the lower temperature of this week. Rains would still be of great benefit to late seeded crops and corn. Nearly all grain plats in the rotations are ripening, - many, no doubt, will be ready for harvest by next Monday, July 27.

Mandan, continued:

Harvest of crested wheat grass rows for seed has been completed. The last of the sweet clover varieties in the nursery was harvested today.

Selfing of Northwestern Dent ear row selections has been in progress most of the week. The cool weather has checked the movement of tassels and silk to such an extent that selfing was rather slow.
Maximum temperature 92, minimum 45; precipitation, Trace.

Cooperative Grazing Experiment.

Vegetation photographs in the various pastures were taken this week.

The steers, which were turned into the sweet clover pasture last week, do not seem to graze off the Russian thistle much, but to work around them for the sweet clover. It was hoped that they would clean up the weeds present, but the thistles were evidently too mature.

Horticulture

Sweet corn breeding work has been in progress throughout the week.

Gooseberry and Golden currant seedlings have been gone through and notes taken on selections. A few new selections have been made for further observation. A large number of gooseberries were scalded by the hot weather.

Sandcherries are ripening, and notes are being taken on last year's selections.

Raspberries are yielding fairly well for this fruit on dry land, but rain is needed.

Arboriculture

On Tuesday, July 21, Robert Wilson left the station for Huntley and other points, and planned to meet Mr. J. H. Emerson at Gillette, Wyoming. He will travel with Mr. Emerson for several days, inspecting shelterbelt plantings, before returning to Mandan.

The Shelterbelt inspectors continue to report very favorably of the new tree plantings, and general crop prospects. Rain has fallen in some areas travelled during the week, making automobile travel temporarily difficult.

Mandan, continued:

Mr. J. M. Stephens left Mandan last Tuesday for Washington, D. C., for an indefinite period; Mr. J. T. Sarvis left on Thursday for Miles City, Montana, expecting to return to Mandan about Wednesday, July 29.

Visitors during the week included Mr. Blaine Ferguson, County Agent, Pondera County, Montana; T. Ray Stanton and John H. Marton, Agronomists, Ralph W. Smith, Assistant Agronomist, Charles S. Reddy and W. E. Brentzel, Assistant Pathologists, all from the Office of Cereal Investigations; Prof. L. H. Newman, Dominion Cerealist, from Ottawa, Canada.

BELLE FOURCHE:

The temperature was lower and the humidity higher during the past week. The corn continued to wilt during the warmest part of the day but did not become permanently wilted. The plats on fall plowing are in a little better condition than most of the plats on spring plowing, and about half of the plants are showing silks. Not over 20 per cent of the corn on spring plowing has silked and most of it will not silk without rain. All corn is very short and a good yield cannot be obtained no matter how favorable conditions may be from now on. A few hot days would almost entirely destroy the prospects for a yield of ear corn.

Harvesting has been completed except for two plats of wheat on spring plowing and one plat of flax. It seems likely that the yield of all grains will be about average.

Sorghum has commenced to make rapid growth, and has shown no signs of drought injury as yet. Potatoes have practically ceased growth.

Several thunderstorms have occurred during the week but very little rain was received at the station. To date this has been one of the driest Julys on record. The total precipitation for the month up to the 25th is .39 inch.

Maximum temperature 87, minimum 49; precipitation .12 inch.

ARCHER:

The weather during the past week has been rather cool and pleasant with a rain of .54 inch on July 21. The highest temperature, 94 degrees, occurred July 19. Since that time the weather has been more or less cloudy with two local showers.

On July 20, 21, and 24, there were held at the station Community Picnics in which the farmers were taken over the station and inspected the results produced by the different methods of cultivation. The results secured by the use of duck-foot in producing the fallow for winter wheat received special attention. Great interest is being shown in the production of winter wheat by this method.

Archer, continued:

The work at the station has consisted of repairing harvest machinery, cutting and harvesting of oat hay from the general field and the harvesting of winter wheat. All of the latter crop is harvested except four plats in the date of seeding experiment and one in the method of fallow. At this date the threshing machine and engine are being set in order that threshing of the winter cereals may take place next week..

AKRON:

There have been three inconsequential showers since last week's report, and the heat has not been so oppressive. Corn has not suffered nearly so much as the week before but the earlier damage is still apparent. Corn on the fallow plat on the MC series on the rotations is showing silks, but corn elsewhere is at a standstill, a few tassels showing. Sheep rotation barley fields were threshed early in the week and the sheep turned into the stubble. Field in Rotation 28 yielded 7.1 bushels per acre, while field in Rotation 51 yielded 8.0 bushels per acre.

The harvesting of the Cereal Variety oat and barley plats was completed with the exception of two late varieties of oats. The harvesting of the Cereal Nursery is being completed today. The thinning of the Forage Variety sorgo and sorghum plats was completed. The station roads were graded. The fallow strips were hoed.

Maximum temperature 99, minimum 54; precipitation .07 inch.

NORTH PLATTE:

On account of lower temperatures and a light rain early in the week injury to crops on account of drought has been somewhat less than that of the week preceding. There was considerable cloudiness early in the week but the total rainfall was only .47 inch. This is the total for the month to date.

All threshing except the cereal nursery has been completed.

Some disking has been done but early fall plowing is being held off in the hope that rain will be received.

COLBY:

A few "dry weather" showers fell during the week. There was not sufficient moisture in any of them, however, to do any appreciable good. The largest of these showers fell the first of the week and was considerable less than half an inch. This rain made it a little too tough for threshing so that the early fall plowed plats were plowed and packed during the lull in the threshing operations. Four and one-half days were spent in threshing.

Colby, continued:

Threshing was completed with the exception of a small field of Kanred wheat, which should be finished on Monday unless rains should prevent. All of the grain threshed has been weighed, although not all of the yields have been checked. The fallow preparations for all of the small grains shows up exceptionally well this year. Fallow yields are very much more than double the yields on continuous cropped or rotation plats. Winter wheat on fallow on the project averaged approximately 23.0 bushels per acre.

Corn, except in a few favored locations in commercial fields and a few of the plats in the rotations, is very badly burned. Corn, for all practical purposes, can be recorded as a total failure now.

The sorghums on the rotations are rapidly showing the effect of the dry soil. Some of the listed sorghums are drying badly and in many cases some of the plants have dried completely. This is due, probably, to the fact that the small plants did not reach subsoil moisture before the dry weather began to burn the leaves. The surface planted sorghums are drying though not to the extent that the listed sorghums are. This is different from what one would expect, hence the above explanation.

A good stand and growth has been secured on sorgos surface planted and double-rowed on the 3rd of July.

Evaporation still remains high though the temperatures are not as high as in the previous three weeks.

HAYS:

The temperature has varied from 59 to 100 degrees. The maximum temperature was accompanied by a hot wind for part of one day.

Early in the week a good rain occurred, measuring 1.15 inches. Although some of this was lost by run-off it was very beneficial to the feed crops.

All feed crops have suffered and burned more or less but with a reasonable amount of rains from this time on there will be considerable amounts of feed harvested.

Work has consisted very largely in a continuation of tillage and soil moisture work.

GARDEN CITY:

Some relief from the heat was received during the early part of the week. A shower of .24 inch was received Sunday night and another of .34 was received Monday night. A maximum temperature of 70 was recorded for Wednesday. This was somewhat of a change from the temperature of 108 recorded on the previous Saturday. The precipitation received was not enough to do growing crops much good.

Corn prospects are very poor. Surface planted corn on continuously cropped plats was burned until it is doubtful if recovery could be made even under favorable conditions. A chance still remains for lister planted plats and surface planted plats growing on fallow.

Sorghums growing on land cropped last year are rolling badly. Those on fallow are making a satisfactory growth.

Cowpeas, while not making much growth, are withstanding the drought well.

Field work has consisted of plowing the early fall plowed plats. The soil is so dry that a good job of plowing can not be accomplished.

Director L. E. Call was a station visitor yesterday.
Maximum temperature 108, minimum 63; precipitation .58 inch.

DALHART:

Conditions are much more promising at this writing than they were a week ago. Last week was dry and hot. A week ago today was the hottest day on record at this station. The temperature reached 105½, which is ½ of a degree higher than any former record. This week has been more moderate. There were several several rains this week which totaled 2.15 inches. From all indications this was a general rain. The heat wave was broken and conditions here are very much improved.

Tourists visiting and passing through Dalhart from points in Texas, which are widely scattered, state that prospects here are far ahead of any other place they have visited. A number of farmers from southern points in this state are visiting Dalhart at this time, a number having been station visitors, with a view to locating here. They state that the cotton prospects here are far ahead of the main cotton sections this year, Cotton is certainly looking good here this year and has been from the start. The early May plantings are in the lead. The row crops are making an excellent showing in most places over this section. In some places within 20 miles of Dalhart nothing had been planted until the recent rains. Much planting is being done at this time where conditions have been too dry for earlier planting.

Dalhart, continued:

This is the first day of the week that field work could be done. The cotton is being cultivated this afternoon. None of the other fields is dry enough to work and can not be worked before Monday. The time was spent during this wet spell in making wire baskets for heading plats in. Somewhat over a hundred were made and bottoms put in them this week. This system for harvesting the grain from the plats will cut down the amount of labor required under ordinary conditions by a considerable margin. This will enable the threshing to be done two months earlier than it can be done under the old practices of binding and shocking.

All teams will be put in the field the first of the week. Some will be used on cultivators while the remainder will be used on harrows, etc., breaking the crust in the crops that are too high to cultivate. The first and second dates of Sudan grass will be harvested as soon as the plats are dry enough to permit running the binder. These cuttings are going to be very light.

TUCUMCARI:

Rains of 1.44 inches the past week, bringing the total for the year to date to 5.99 inches, greatly benefited all crops. Practically all early planted crops were firing, while even the late crops were rolling extensively. Growth had in some cases ceased, but now everything is responding to the increased moisture. Milo planted in late May headed unusually early, during the drought, and as a result of this the plants are only about knee high, the heads are small, and prospects for a good crop are poor. Should heavy rains cause suckers to form it is doubtful whether the heads on them would mature. Many farmers who were unable to put plow or lister in the ground previous to the rains of this week are now planting cane, Sudan, and broomcorn. Some milo and feterita are being planted, but this late in the season it seems wiser to plant forage sorghums, as less than three months of growing weather can be expected.

Cultivating and hoeing have been in progress the past week and most fields are practically free from weeds. One of the windmills has been overhauled.

Maximum temperature 105, minimum 60; evaporation 2.362 inches.
Average hourly wind velocity 4.5 miles.

BIG SPRING:

Weather conditions during the past week have continued hot and dry. On July 19 the thermometer registered 108, which is the highest temperature recorded this summer.

Big Spring, continued:

All crops are suffering from the lack of moisture, but the spring plowed plats seem to be suffering considerably more than the fall plowed ones. Nearly all of the cotton on the station and surrounding country is starting to blossom in the top, although the plants are only ten or twelve inches high. This condition is a poor indication for anything but a light cotton crop unless it rains very soon.

Two plats of Sudan grass in the rotations were cut this week and also the drilled and rowed Sudan in the variety tests. The millet was also cut. The millet and drilled Sudan was so short that it could hardly be cut with the mower.

An increase field of Sudan grass is being cut today with the grain binder.

Maximum temperature 108, minimum 74; precipitation 0.

LAWTON:

The prolonged period of drought and intense heat continues unabated in Southwestern Oklahoma. From July 1 to 25, inclusive, the maximum temperature averaged 101.3 inches. Since July 13 the average maximum temperature has been 103. The highest temperature of 109 has been recorded twice. The evaporation ranges from 0.3 to 0.5 of an inch per day. Precipitation for the month to date equals 0.33 inch. The total precipitation from May 16 to date amounts to 0.98 inch.

Sources of water and grazing for live stock is an acute problem with many farmers. Production of rough feed and grain for the maintainence of stock will be cut to the minimum. It is possible, however, that fall rains will make possible a fairly satisfactory supply of winter wheat pasture.

Cotton still remains green but the plants are small and a profitable production of lint is scarcely probable even under favorable weather conditions from now on.

Cowpeas have withstood the drought well but the total production of seed and forage will be very light.

Reed kafir and darso have quite consistently shown considerable superiority over the other sorghums in drought resistence. Dwarf feterita has, in many instances, headed at a height of about 2 to 2½ feet but there will be but little grain in the heads.

Station visitors on the 17th were C. S. Mitchell, County Agent, from Jefferson County, and L. W. Osborn, Extension Agronomist, from Stillwater, Oklahoma.

WOODWARD:

After a maximum temperature of 111 degrees on the 18th the weather moderated somewhat, and we received showers on three consecutive nights. These varied from .10 to .66 and totaled .96 inch. This amount of precipitation, of course, has brightened up all late row crops. The high temperature and hot wind on the 18th, however, about finished the corn.

Grapes, peaches, and plums all ripened slowly during the cool weather of the last few days. Small quantities of these fruits and a few apples have been picked.

Dirt, which was removed from the basement of the house on the dairy farm, is being moved and used for grading up in and around the new dairy barn. Some holes in the roads have been filled in, and the road between the D. L. A. and Dairy buildings is being graded. Other work has consisted of cleaning up scattering weeds, hauling manure, and repairing machinery.

A late planting of feterita was made on the 24th, and one plat of broomcorn CC.F has been replanted. Because of dryness, no stand was obtained the first planting, and most of the few plants that emerged died. It has been too dry to replant until now.

Maximum temperature 111, minimum 63; precipitation .97 inch.
Evaporation 1.692 inches. Average hourly wind velocity 5.2 miles.